

TRANSACTIONS

OF THE

Philosophical Institute of Victoria.

Anniversary Address of the President, the Honourable Andrew Clarke, Captain R. E., M.P., Surveyor-General of Victoria, &c., &c., &c.

THE office of your President requiring qualifications I am aware I do not possess, and being ordinarily occupied in the discharge of official duties requiring all my time, I fear I shall be able to add but little to the proceedings of a Society which can be made the means of great benefit to the country, yet let me assure you that my hopes will not be the less sanguine, or my efforts the less ardent, to place your Institute on a basis which will command support and respect.

It now becomes my duty briefly to revert to the past history of the two societies, the union of which we are met here this evening to cement.

Though the past efforts of both have not been unworthy of their object, they have fallen far short of what we can hope to attain for the future by their combination. When I had the pleasure of addressing the first meeting of the Philosophical Society, its members were few, and it had a powerful rival in the Victorian Institute. It seemed then as though there were insuperable difficulties to their amalgamation, but connected as I have been from the first with both, it was always my earnest desire to see consolidated the strength and energy of the two Societies.

The circumstances of the country indeed precluded the possibility of two such Societies existing successfully, and as this became more evident it was proposed to effect their union on a wide and permanent basis.

The management of this was entrusted to committees of the Council of both, and I have to congratulate the gentlemen forming those committees on the temper and prudence they exhibited in conducting the arrangement to a successful conclusion.

United as we now are, and receiving accessions of new members, our means of useful exertion are greatly increased.

If we are firm to those principles which past experience has shown to be best for scientific bodies, we need entertain no fears that our efforts will be misconstrued, or that the public will long remain indifferent to our pursuits.

Notwithstanding the difficulties to which I have alluded, the advance of both Societies has been rapid, the results of their labours valuable.

Established at a period when Victoria had already occupied the first place in the southern hemisphere, we were sanguine of a brighter success, of more earnest endeavours, of more extensive research, than I can truthfully attach to our efforts. But that they have not been futile—that they have not been unworthy of the country—is manifest in the valua-

ble original papers which have from time to time called forth the interest and approval of the members. And not only in this form have members presented the results of their application.

The science of geology has been extended by the collection of many hundred specimens of rocks and fossils illustrative of the formations which occur in a gold-producing land. They have been gathered from widely extended localities, and are often accompanied by remarks and descriptions which add a ten-fold value to such records.

Our botanical knowledge has been largely augmented by the arrangement and display of many new species of plants, some of which, it is believed, will become useful in the arts and in medicine. Beautiful specimens of timber have been exhibited of kinds hitherto little known, and the limits of the geographical distribution of plants in this, the most southern part of Australia, have in many instances been recorded. For these we are almost wholly indebted to the brave and simple-hearted Ferdinand Mueller, whose courage and devotion has led him, unaided and unrequited, to seek in hostile and deadly regions, new objects of peaceful conquest. I am sure I am expressing the feelings of all in cherishing the hope that he may return unharmed from his self-denying and dangerous task, to aid us by his counsels, and to add fresh memorials of his eminent abilities to our records and museum.

The meteorology of Victoria has become the subject of attention to many observers, and is now being made the object of systematic organisation, with the view of extension to the other colonies of the Australian group.

The value of these results alone in guiding improvements in our sanitary and material progress cannot be over estimated.

To the nucleus of a national museum have been added

many valuable contributions. And whilst all these have received a proportionate share of attention, there have not been wanting practical men who have brought special acquirements to bear on subjects of a more limited character;—local in their application, but general in their importance. The engineer, not content to follow blindly the beaten track of his predecessors, has brought to light new and useful facts in architecture, in road works and hydrometry; and while discoursing of abstract principles, which are at once his guide and the result of former application, he has not forgotten that his works are to be valued rather by the measure of their utility than as additions to science.

In reviewing past exertions I would more willingly draw your attention to such of them as have been successful, but if I adopted this course I should ill discharge the task which is allotted to me.

If success has attended those things wherein we had chiefly to rely on our own energies,—for the accomplishment of which there was needed no extraneous aid,—we have failed, and failed lamentably, when we have had to look for assistance to those who reap a certain benefit—in some cases directly in others indirectly—from the works undertaken by this Society.

It will be in your recollection that in September, 1854, it was proposed to organise a system of exploration with the hope of discovering and rendering available the mineral wealth of the colony. That system, after being carefully considered by a committee to inquire into its merits, was unanimously adopted at a general meeting of the Philosophical Society. Its aims, however, being utterly beyond the power of a young society, it was determined to appeal to the Governor and Legislative Council for assistance. The scheme itself was so extensive that it was necessary, in stat-

ing its objects to the Government, to limit it in some measure to the absolute requirements of the colony.

It may be as well here to repeat the reasons which led the society to believe that had this scheme been undertaken it would have benefited the country at once, and in the manner most needed. More than now our knowledge of the physical character of the province was circumscribed. Efficiently organised exploring parties would have supplied the information in an acceptable form. The discovery of an available coal-field is necessary to our prosperity as a commercial people, and as coal is known to exist here, especially at Cape Patterson and on the Cape Otway coast, this, under proper superintendence, might ere now have been accomplished.

We know little accurately of the real extent of the auriferous districts of the colony, but what little is known leads to the belief that careful and searching inquiry, and that not protracted nor involving any large pecuniary outlay, would destroy many gross delusions existing on this point, and possibly, by showing the true nature of auriferous deposits, induce the miner to work on better and more economical principles. Recent events have proved still more how correct was the view we then formed on this subject.

Materials for building purposes are so scarce here, or rather are considered of so poor a quality, that freestone has actually been imported from Tasmania, and yet it is believed by many practical men that much good freestone may be obtained even in this district.

These, and subjects of a kindred character, would have been inquired into by exploring parties, and even had one discovery of such a nature rewarded their toil, it would have been an ample recompense for the outlay we had proposed to ourselves.

Though all these researches have been admitted to be of

vast importance in the national advancement of Victoria, the indifference of the colonists, and the apathy of the Legislature, led to an abandonment of the scheme.

Let me not, however, be misunderstood in what I have said. I do not advocate the adoption of state aid or state organisation for institutions like this. I do not believe they would harmonise with our social or political character. In this as well as in many other associations, experience has proved that in British communities, the voluntary efforts of individuals have rendered more essential service than the cold, and too often ungracious, vote of a Legislature, whose views, frequently narrowed within the prospect of an immediate result, cannot recognise the gradual steps that must be taken even by the bold and original, though still cautious enquirer. The extreme indifference towards those things which do not promise immediate and certain pecuniary profit or advantage, is an evil the effect of which will extend to the next generation.

It is the peculiar duty of an institution like this to combat this evil as powerfully as it can, and to censure as strongly ; but it would be unjust to attach an undue share of blame to individuals, or to a small section of the people, for what is unhappily too marked a feature in our whole social system. The failure of the scheme but illustrates the spirit which pervades all classes, and though we may cheerfully look forward to a period when Science in Victoria shall have her temples and her worshippers, these will not be numerous or wealthy, until the people have learned, by costly experience, that to neglect her admonitions, is to neglect the best sources of prosperity.

Events have shown that if we continue unmindful of the means of wealth which are open to us, if we depend exclusively upon our neighbours for those substances without which the arts cannot exist, Victoria must give place to those more enterprising countries.

Already in New South Wales the manufacture of iron has, I understand, become an important branch of industry,—and unlike the precious metals—where iron is found in abundance—there material prosperity is attendant upon national industry and steady endeavour. Unlike a search for the more glittering ores, it is permanent. It never dazzles us with the promise of enormous and rapidly acquired wealth, and it never disappoints the wise enterprize of the experienced. Abundantly favoured with extensive auriferous fields, let us endeavour to divert the labour of the immigrant from such a channel, and chiefly lend our aid to better, because more enduring operations.

Independent of our extensive auriferous fields, it may be presumed that we have at hand in our coal and our iron ore the elements of a prosperity to which the wealth of the gold mines is insignificant. Shall these be neglected because the gold mines are not yet exhausted? On the contrary, should we not endeavour the more actively to construct a lasting foundation on which the prosperity of the country may rest secure.

I am the more inclined to press these views upon the members, because outside there is a tendency to view the gold districts of the colony as the only means of support to a large population, as the sole resource which is open to the enterprize of the industrious.

It is not my opinion that the auriferous lands are in any locality exhausted, or that they will suddenly cease to reward the labour of the miner. On the contrary, I believe that as science, machinery, and capital, are brought to bear on the extraction of gold from the matrix, and its separation from the alluvium, we shall have a larger and a steadier yield, and consequently larger and more certain earnings to the miner.

Though this view of the case is so far satisfactory, let us not forget that gold alone will not help us with our railroads,

—that it cannot with profit be exchanged for coal and iron and manufactured goods.

It is certain that this yield increases at the expense of every useful manufacture, and that the country which depends upon this alone will soon retrograde, and be left far behind in civilisation, in arts, and in refinement.

In seeking to connect the sciences with the practical business of life, there are many prejudices to be overcome, and much difficult ground to be broken up. Aware of this, we must be prepared for sacrifices on our part, but such as we need not shrink from if we look steadily forward to the beneficial results of even a partial success. Already has an advance been made in this direction. An institute of this kind in the midst of a people, strangers to each other, who have not yet begun to acknowledge, if they yet recognize, the ties which in the European world draw men into close connection, is not intended to compete with societies which have long been founded, which have reaped the labours of such men as Forbes and De la Beche, and are receiving continual accessions from many hands in all parts of the world. It is perhaps, in some instances, because of a comparison with such societies, that this Institution in Victoria has not received that cordial help which it has a right to claim. Those who have taken this view must not forget that the Royal Society of England had a commencement auguring ill for its future success. Established at a period when men's minds were divided between rejecting the teachings of science altogether, and attributing to such knowledge more than a miraculous power;—composed of men, many of whom were unacquainted with the simplest facts of science, which indeed were then only known to a few;—encountering fierce hostility from the most eminent persons;—suspected of conspiring both against religion and freedom;—it had a long struggle before it won public confidence.

Such difficulties as these we have not to contend against;

but the pursuits we ask others to follow and to support us in, have never yet been properly recognized, or their importance practically admitted. Natural history finds no place in our schools. The practical man has stood aloof from the man of science. The Manufacturer, the Artist, and Designer, have followed the dictates of empirical practice, and have rarely, till of late years, lent a patient ear to the simple truths taught by the Chemist and the Geologist. And is it because the sciences are remote from their pursuits? "I am not one of those," says Forbes, "who would separate science from the ordinary pursuits of men, or who would desire to see philosophers withdrawing themselves from the multitude, by keeping their thoughts unmingled with the meaner aims of the crowd. When Science, provided she be mindful of her honour, and makes no sacrifices of her love of truth, serves as the handmaiden of even the humblest of arts, her dignity gains in lustre, and her familiarity breeds respect. There is no department of science without some ties with the common business of life."

It is for us, in this country, to assert the high importance of knowledge, to bring before the people in an intelligible form, the truthful principles and the ascertained facts which ought to guide the Architect, the Miner, the Agriculturist, and the Engineer. That this is not beyond our ability, is proved by the works which have emanated from the Society.

In the establishment of a museum we have the elements of much good. It is not to be a mere collection of curiosities, serving rather to bewilder than to instruct. It is not to contain specimens that are interesting only because they are beautiful. I hope to see in that museum a complete collection of all the ores that are useful, of all the woods that are suitable for shipbuilding, for roads, and for tramways. There should find a place a large assortment of all stones that can be usefully adapted to architecture, with correct descriptions of the localities from whence they are procured,

with a statement of their durability and qualities. I desire to see the museum filled with all those objects that are peculiarly valuable in a new country, to the exclusion of merely ornamental specimens.

In carrying out these views the members of the Institute can each assist in some department; and as all the contributions will be carefully preserved, it should be a subject of pride to each, to add to these records of the country's progress.

The Observatories hitherto established, restricted yet in their operations, are not less practical than the museum. The progress that has already been made in the compilation of meteorological tables is highly satisfactory, and a record of the rain fall and the variations of the thermometer, taken at suitable places throughout the country, will, I trust, be added. The information gained from these—though still limited and insufficient—will go far to settle many doubtful points which perplex the man who is about to settle as an agriculturist. To the farmer the truth respecting the climate of any particular district is obviously of the greatest importance.

In advocating very strongly that the labours of the members of the Institute should be essentially practical, I do not wish to be supposed to underrate the labours of those who devote themselves to the study of abstract truths; nor would I disdain the humblest aids which we can all give to our common object. Some can gather and arrange the raw material, the facts and observations which shall proclaim and explain the existence of new and unknown laws; others can collect the fossils and rocks from which the geologist can frame a history of the world, or the minerals which the Chemist in his laboratory can convert to high and important purposes of life; but more than all, and above all, we can by kindly help and cordial co-operation, cheer the solitary student in his labours, and be the assurance of the warm sympathies of his fellow-men.